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REGIONAL DIFFERENCES IN MIGRATORY BEHAVIOUR IN FINLAND

ABSTRACT. The paper aims to analyse regional differences in migration behaviour and labour market adjustment in Finland. The analysis focuses on individuals belonging to the labour force both in 1985 and 1990. The data is a one percent sample from the Finnish longitudinal census file. Three outcomes can be deduced from the results. First, regional migratory behaviour has an equilibrating role in regional labour markets, albeit not very strong. Second, the chosen regions differ from each other quite little by migratory behaviour in general. Third, the effect of personal unemployment on migratory behaviour is weaker in northern Finland and so the future prospects of high-unemployment areas are further worsening.[1]

1. Introduction

The response of migration to income and employment differences is one of the main mechanisms that equilibrate the regional system of labour markets. Thus, in regional economics, the relationship between labour mobility and unemployment is of great importance. Two other important mechanisms are the reaction of employment to regional wage rates and the response of regional wages to excess demand and supply variables (Marston 1985; Vanderkamp 1989; Pissarides and McMaster 1990). This paper concentrates on the relationship between migration and unemployment, focusing on the question of the effects of unemployment on migratory behaviour in Finland and in its different regions.

The empirical analysis of the paper deals with three main questions in the case of Finland: first, what are the factors influencing migration; second, what is the response of migration to unemployment; and third, are there regional differences in migratory behaviour. The third question is most important here. We are especially interested in the question of regional differences in the response of migration to unemployment. The analysis is based on large longitudinal micro data from the period 1985-90. The analysis concerns long distance labour migration since it is usually accompanied by change in the workplace as well as other labour market attributes. Long distance migration is considered to take place if a worker moves from one province (old Finnish 'lääni') to another.

The question of regional differences in migratory behaviour originates from Tervo's (1997) paper, which surprisingly could not show that personal unemployment has an effect on migration in Finland. Only regional unemployment was found to be an important factor. These results are not in line with most results obtained from other countries (cf. Herzog et al. 1993). With a closer analysis of the phenomenon, two questions arose. First, a potential weakness of the analysis related to the long time interval (five years) for observing migration and unemployment. Due to the quinquennial character of the data, the unemployment variables refer to a period that was (at most) five years earlier. As the regional unemployment is quite persistent over time, this is less a problem for the regional unemployment variable.

For the personal unemployment variable it is a bigger problem, since the variable describes workers' unemployment situation only for the year preceding the migration interval. As information from other years of the migration span is unavailable, the measurement ability of the variable weakens. On the other hand, many studies (especially from the US) have operated with the same time span and found personal unemployment to be a significant determinant of migration.

Solving the problem would require data with a shorter time interval which we, unfortunately, do not have at present.[2] What we are able to do instead is to try to develop the measurement ability of the personal unemployment variable. In the previous study, the variable of personal unemployment was used to observe the main type of activity at the first year of the migration interval (1985). The problem of this is that it requires a long period of unemployment[3] for a person to register as unemployed. From this it follows that the amount of those workers who experienced a period of unemployment is underestimated. In this paper, therefore, the personal employment variable also includes also shorter periods of unemployment.

The second way to further analyse the role of personal unemployment in migratory behaviour is to extend the analysis to consider different regions of Finland, and not only the whole country. We ask, then, whether the regions differ from each other with respect to migratory behaviour. This question is related to the unique geographic and population characteristics of Finland. In Finland, most people live in the South, while rest of the country is sparsely populated. The South is also characterised with low unemployment rates and positive net migration while the North suffers from high unemployment and depopulation. To some extent, environment factors as well as many social and psychological factors ought to have an effect on migratory behaviour. Table 1 shows that certain differences do seem to exist in the relationship between unemployment and migration. Out-migration does not follow analogously the provincial unemployment rates. The high unemployment areas such as Lapland or Oulu have low out-migration – unemployment ratios while successful areas such as Uusimaa reach high values of the ratio. Unemployment in the region and out-migration from that region do not seem to increase in the same proportion. We are interested in the role of different migratory behaviour patterns in this outcome.

Table 1. Long-distance migration and unemployment by province in Finland, 1985-1990

Province	Unemployment rate (%), 1985	Out migration as % of labour force, 1985 – 1990*	Out migration / unemployment
Uusimaa	2,79	3,23	1,15
Turku and Pori	6,27	3,51	0,56
Häme	6,58	5,62	0,85
Kymi	7,76	5,12	0,66
Mikkeli	7,37	7,12	0,97
Northern Karelia	9,97	6,78	0,68
Kuopio	8,11	6,25	0,77
Central Finland	7,81	4,91	0,63
Vaasa	5,76	4,35	0,76
Oulu	10,61	5,31	0,50
Lapland	13,69	9,10	0,66
Åland Islands	1,71	0,00	0,00

The rest of the paper is structured as follows. Section 2 discusses the relationship between unemployment and interregional migration and presents the framework of empirical analysis. Section 3 introduces the model, data and variables used. Section 4 reports the empirical results, first presenting the results related to causes of migration and then the findings on regional differences in migratory behaviour. Finally, section 5 presents the conclusions and defines the guidelines for further study.

2. Unemployment and migratory behaviour

There are two essential questions relating to the question of the role of migration as a regional adjustment process. First, how does unemployment affect migration? This question is linked with the role of unemployment in augmenting the likelihood to move, and is of primary interest here. Second, how does the migration affect unemployment? (see Herzog et al. 1993) This question concerns the role which migration has in increasing the likelihood of re-employment. It is also important as seen from the viewpoint of the adjustment process as a whole, but this will be left for subsequent studies.

Pissarides and Wadsworth (1989) have argued that the possible effects of unemployment on migration occur at three different levels, which are a personal level, regional level and national level. At the personal level, the employment status of a worker is related to mobility. Unemployed workers have a greater likelihood to migrate than employed workers due to lower cost of movement. At the regional level, migration is encouraged by regional unemployment differentials. Workers of high unemployment regions are more likely to move compared to those living in low unemployment regions. At the national level, a higher overall

Table 2. Channels of regional migration adjustment

CHANNEL OF INFLUENCE	KEY ELEMENTS OF ADJUSTMENT PROCESS	PREDICTED OUTCOME	LEVEL OF EFFICIENCY
1. None	The migration decision is influenced by other than unemployment considerations.	The effects of labour migration on regional unemployment disparities remain small.	-
2. Regional unemployment	Employed are at increased risk of becoming unemployed and the unemployed have decreased chances of local reemployment. Influence of regional unemployment operates mainly through the probability of finding a job i.e. the low-unemployment areas are more attractive for potential migrants, particularly for the unemployed.	Regional unemployment disparities fall with migration. However, out-migration from high unemployment regions slows down as regional unemployment disparities even out. The ratio of unemployed and employed out-migrants is the same as the ratio of unemployed and employed in the region. The phenomenon of cumulative causation may take place when high unemployment regions lose their human capital and size.	Macro efficiency
3. Personal unemployment	Higher regional unemployment rates do not affect migratory behaviour. Instead, personal unemployment increases the likelihood of migration. This is because the cost of moving is lower for unemployed workers than for employed workers.	Compared with the case of regional unemployment, this case is more effective in reducing regional unemployment disparities. First, regions with high unemployment rates do not have to lose a considerable part of their labour force because the unemployed persons are more likely to move. Second, out-migration from high unemployment regions does not slow down with diminishing unemployment disparities.	Micro efficiency
4. Regional and personal unemployment	This case is a combination of the cases two and three. Both the higher regional unemployment rates and personal unemployment increases the likelihood of migrating.	The overall effect of unemployment on migration is strong. However, while the adjustment takes place, the high unemployment regions loose their human capital and become smaller in size. The danger of the process of cumulative causation is great.	Macro and micro efficiency

unemployment rate decreases the probability to move. The jobs are more valuable to employed workers and new job opportunities are scarce. Because of the decreased probability of getting a job at the destination of movement, the potential migrant is faced with greater uncertainty (cost) and lower rates of return from migration. Accordingly, during recessions the equilibrating role of migration is reduced. (Pissarides and Wadsworth 1989, 739-741; Milne 1993)

The first two relationships between unemployment and migration are clearly related to the analysis of regional adjustment. Differentials in labour mobility may be triggered by personal unemployment and/or a higher regional unemployment level. Migration can be stated to be micro-efficient if personal unemployment increases the probability to move, all else being equal (see Herzog et al. 1993). In the same way, the migration can be stated to be macro-efficient if the triggering factor of migration is regional unemployment (see Herzog et al. 1993; Van Dijk et al. 1989). Thus, unemployment may have two channels of influence on migration, viz. personal and regional channels. As a result, when analysing the overall effect of unemployment on interregional migration, four possible different cases emerge. The cases and their characteristics are presented in Table 2, which also forms the framework for our empirical analysis.

3. Model, data and variables

The methodological approach of this paper was based on regression analysis exploiting micro level data. The attention is drawn to the decision making of a potential migrant. The discrete choice of the migrant relates to the question of whether the migrant remains in the current region or migrates to another. The modelling followed the human capital approach that emphasises the income returns to migration that can accrue over the remainder of the migrant's working life (Sjaastad 1962). The benefits of moving are weighted against the costs of moving and if the benefits exceed the costs, the individual would be better off if he or she moves. The probability of individual migration is a function of personal and regional variables. The analysis employed the binary–logit model based on the logistic distribution.

The data set was a sample from the Finnish longitudinal census file which contains data on population, economic activity, dwelling conditions and family gathered at the censuses in the period 1970-90. The census file is maintained and updated by Statistics Finland. The data set used was a 1 percent sample taken from the census file. The analysis focused individuals belonging to the labour force both in 1985 and 1990. The sample size was 18 849.

The dependent variable, migration (**MIGR**) involves a change of residence (i.e. a movement from a region to another). This geographical interaction was defined as taking place under two conditions. First, an individual belonging to the labour force ought to be resident in a different province in 1990 than in 1985. The Finnish provinces are comparatively large in area, therefore a move from one province to another most probably means a change in the local labour market as well as a change in job. Migration defined in this way was termed as long-distance migration as distinct from short-distance migration that includes all other moves inside a country. Short-distance moves are often motivated by family reasons and housing needs instead of labour market reasons. Second, a person was supposed to work in the same province where he/she lived in 1990. This second condition was also formed on the basis of distinguishing migrants looking for a job from those with other motives.

The analysis included two-data originated shortcomings that, on the other hand, are quite typical to empirical analyses such as this. First, the time span used for observing migration was unavoidably long. As a result, the migration rates are likely to be understated because of repeat migration within the relevant time period. Due to the long time span, the relationship between migration and unemployment also becomes harder to analyse. The same time span has nevertheless been used in many other comparable studies. In their survey of migration as a spatial job-search, Herzog et al. (1993) had selected eleven micro-data based multivariate studies of the migration decision for consideration, of which five employed the five-year migration interval. Second, the examination did not take account why the particular region was chosen as the destination of migration. Hence, the rest of Finland was treated as the single destination region of all migrants from any observed province. Out-migration to abroad was also ignored in this analysis.

A review of theoretical literature and previous empirical findings indicated a wide variety of potential factors which influences migratory behaviour (see for example Antolin & Bover

1997; Greenwood 1975; Tervo 1997). These factors can be grouped into two broad categories: personal / household factors and regional factors. Table 2 presents the explanatory variables used.

Table 2. The explanatory variables of the basic model

PERSONAL AND HOUSEHOLD VARIABLES			
VARIABLE	**NOTATION**	**SCALE**	**OPERATIONAL DEFINITION**
Personal unemployment (statistical)	**PERSUNSTAT**	Discrete, Dummy	1 = unemployed over 6 / 4 months[2] 0 = other
Personal unemployment (short term)	**PERSUNKK**	Discrete, Dummy	1 = over one month as unemployed 0 = other
Sex	**SEX**	Discrete, Dummy	1 = female 0 = male
Age	**AGE**	Continuous, Proportional	00 – 99 99 includes cases >99
Age^2	**AGE2**	Continuous, Proportional	$(AGE)^2$
Educational level (intermediate level)	**IMLEDUC**	Discrete, Dummy	1 = upper secondary education 0 = other
Educational level (higher education)	**HIGHLEDUC**	Discrete, Dummy	1 = higher education 0 = other
Household size (one person)	**HOUSEH1**	Discrete, Dummy	1 = one person household 0 = other
Household size (two person)	**HOUSEH2**	Discrete, Dummy	1 = two person household 0 = other
Migration history	**HISTMIG**	Discrete, Dummy	1 = previous migration experience 0 = no previous migration experience
Home owning	**HOMEOWN**	Discrete, Dummy	1 = home owner 0 = other
Personal income	**INCOME**	Continuous, Proportional	Income subject to state taxation
Location of job	**LOCJOB**	Discrete, Dummy	1 = municipality of job differs from place of residence 0 = other
REGIONAL VARIABLES			
VARIABLE	**NOTATION**	**SCALE**	**OPERATIONAL DEFINITION**
Local unemployment rate	**LOCUN**	Continuous, Proportional	Municipal percentage of unemployment (calculated from basic sample)
Size of municipality	**LOCSIZE**	Continuous, Proportional	The population of resident in 1 000's
Degree of urbanisation	**URBAN**	Continuous, Proportional	Proportion of the population living in built-up areas (10% accuracy)
Structure of production (agriculture)	**AGRIC**	Continuous, Proportional	Share of employed labour force in agriculture and forestry (1/10 % accuracy)
Structure of production (industry)	**INDUST**	Continuous, Proportional	Share of employed labour force in industry (1/10 % accuracy)

4. Results

4.1 Migratory behaviour in Finland

Turning now to the results of the empirical analysis, we first look into outcomes of two different specifications of the basic model. These specifications differ from each other only with respect to the personal unemployment variable. Specification I uses the conventional variable according to which a worker has to have at least a six / four months' period of unemployment if he or she was registered as unemployed (see note 3). Specification II uses the variable in which an unemployment period of one month was enough for a person to be registered as unemployed. Table 3 reports results of the estimation.

The results show that almost all the estimated coefficients are statistically significant and have correct signs, i.e. they are in accordance with the theory and previous empirical findings. Generally, the outcomes of the two specifications are quite similar and the estimated coefficients are stable. The most important difference is related to the personal unemployment variable: in specification I the variable is not statistically significant while in specification II it reaches the significance. This shows that the definition of personal unemployment is of great importance for the results. These results indicate that short-term personal unemployment has an effect on the decision to move. In contrast, the effect of personal unemployment does not come out if it is only measured according to the main type of activity of the worker.

The variable of regional unemployment (**LOCUN**) is statistically significant in both specifications. According to the results, regional unemployment increases the likelihood of out-migration. The result is as hypothetized, but on the other hand it is different from many results obtained in studies from several countries. The regional unemployment variable is strong, and therefore one of the key-effects determining migratory behaviour in Finland.

Table 3. Logit regressions for the probability of moving

VARIABLE	SPECIFICATION I			SPECIFICATION II		
	B	SE	R	B	SE	R
CONSTANT	-1,200	0,624	-	-1,316*	0,629	-
PERSUNSTAT	0,191	0,142	0,000	-	-	-
PERSUNKK	-	-	-	0,274*	0,110	0,024
SEX	0,028	0,077	0,000	0,032	0,076	0,000
AGE	-0,141*	0,030	-0,053	-0,137*	0,030	-0,051
AGE2	0,001*	0,000	0,020	0,001*	0,000	0,018
IMLEDUC	0,267*	0,093	0,030	0,262*	0,093	0,029
HIGHLEDUC	0,880*	0,129	0,079	0,878*	0,129	0,079
HOUSEH1	0,442*	0,111	0,044	0,448*	0,111	0,045
HOUSEH2	0,178*	0,091	0,016	0,180*	0,091	0,017
HISTMIG	1,462*	0,078	0,222	1,464*	0,078	0,222
HOMEOWN	-0,452*	0,078	-0,067	-0,448*	0,078	-0,066
INCOME	-1,9E-06	1,3E-06	-0,005	-1,6E-06	1,3E-06	0,000
LOCJOB	0,129	0,092	0,000	0,129	0,092	0,000
LOCUN	0,059*	0,010	0,065	0,058*	0,010	0,063
LOCSIZE	-0,002*	0,000	-0,071	-0,002*	0,000	-0,070
URBAN	0,133*	0,040	0,035	0,133*	0,040	0,035
AGRIC	0,206*	0,075	0,028	0,207*	0,075	0,028
INDUST	-0,054	0,047	0,000	-0,053	0,047	0,000
	Sample size	18 849		Sample size	18 849	
	Number of movers	886		Number of movers	886	
	Number of unemployed	881		Number of unemployed	1 596	
	-2 Log-likelihood	6 079,0		-2 Log-likelihood	6 074,7	
	Correctly classified, %	95,3		Correctly classified, %	95,3	

Notes: * statistically significant at the 5% level
B = estimated coefficient
SE = standard error
R = R statistic which shows the contribution (sign and class) the variable has in the model

When composing the information on unemployment factors (obtained from specification II), we might say that migration is both micro- and macro-efficient in Finland.

The other results show that the four most important variables affecting long distance migration in Finland are previous migration experience, level of education, size of the municipality and home-ownership. Previous repeated migration (**HISTMIG**) appears to have a strong effect on present migration. This outcome demonstrates that previous experience of migration increases considerably the probability of moving (see also DaVanzo 1983; Tervo 1997; Westerlund and Wyzan 1995). Another strong explanatory variable is the level of education. The results relating to the variables measuring educational level (**HIGHLEDUC** and **IMLEDUC**) show that migration has a selective nature. Individuals with high education are

found to be more mobile. The result is in accordance with many previous studies (DaVanzo 1983; Porell 1982; Schlottman and Herzog 1982).

The size of origin municipality (**LOCSIZE**) was also found to be a strong factor determining migratory behaviour. The results indicate that the likelihood to move decreases with the size of municipality. However, the variable of the degree of urbanisation (**URBAN**) would show that migration increases with the degree of urbanisation. These results suggest that the size of origin have a non-linear effect, a possibility that ought to be analysed in the future. The structure of production is closely related to the size of origin municipality. Workers from primary production areas (**AGRIC**) have a greater probability to move compared with others. However, there was no difference in migration likelihood between workers from industrial dominated regions (**INDUST**) and services dominated regions (reference class).

The homeowner status (**HOMEOWN**) is a strong explanatory variable in both specifications. This indicates strongly that the nature of the Finnish housing system – characterised by a high homeowner-share – reduces interregional migration. A homeowner confronts considerably high transaction costs and the low liquidity of real estate when making his/her decision, and therefore the probability to move decreases with home owning (see also Oswald 1996; Tervo 1997; Westerlund and Wyzan 1995).

In addition to the previously mentioned personal characteristics, age variables (**AGE and AGE2**) also reach statistical significance. The exploited procedure of using age and its square defines the age factor as a non-linear one. The outcome of these two age variables is that the migration probability decreases with age, though not in a linear relationship. Contrary to age, the gender of the worker (**SEX**) does not seem to have an effect on the decision to move. The variables for the size of household (**HOUSEH1** and **HOUSEH2**) are both statistically significant. The interpretation of the results is that workers living alone or in two-person households are more prone to move than workers of bigger household units. Household units including children find the decision to move more complicated. Variables of personal income (**INCOME**) and location of job (**LOCJOB**) do not reach the statistical significance.

4.2 Migratory behaviour in different regions

An interesting question is whether different regions in Finland also differ with respect of migratory behaviour. To analyse this, we split Finland up into four parts using the generally used regional break-down (see Figure 1). The province of Ålands is excluded from the analysis due to its small size.

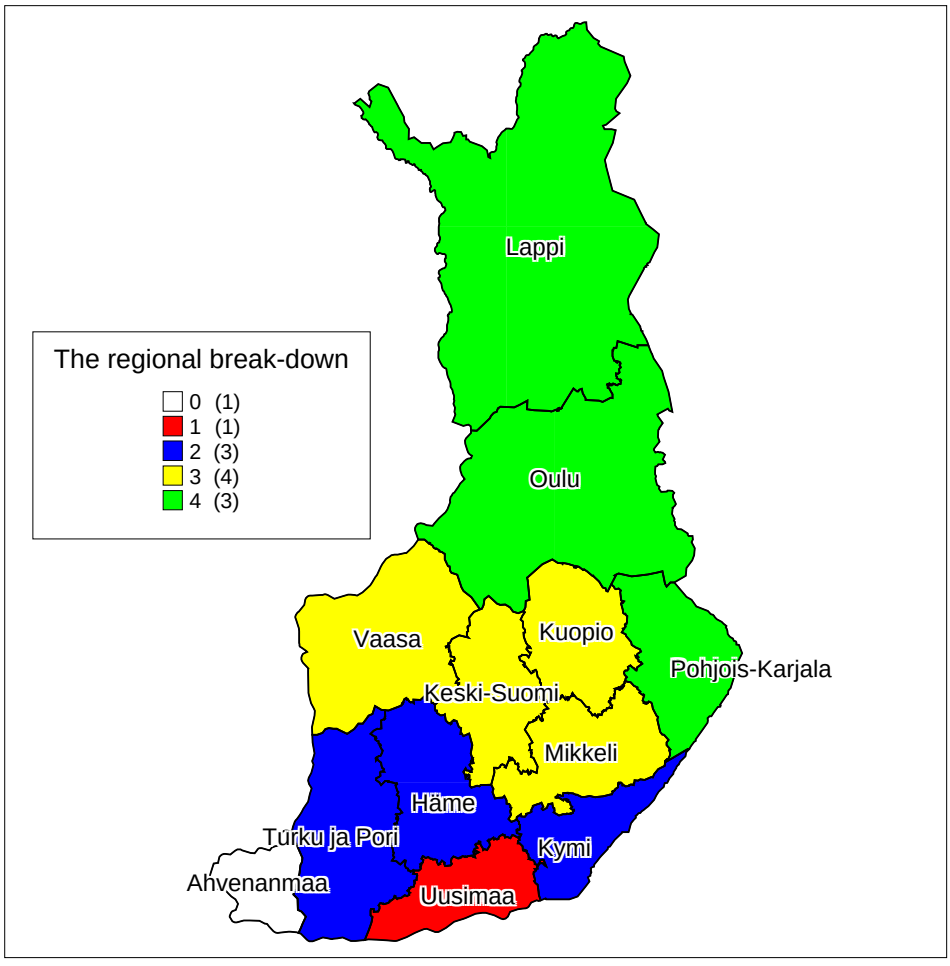

Figure 1 The regional break-down used

The results of the basic model (specification II) were used to eliminate statistically insignificant variables from the regional analysis. Table 4 reports the estimated parameters of the four separate regional models and marginal effects of selected variables.

Table 4. Logit regressions for probability of moving in different regions

VARIABLES	REGION 1				REGION 2				REGION 3				REGION 4			
	B	SE	R	ME	B	SE	R	ME	B	SE	R	ME	B	SE	R	ME
CONSTANT	-2,700	1,396	-	-0,050	-1,840	1,098	-	-0,046	0,040	1,202	-	0,001	1,049	1,350	-	0,041
PERSUNKK	0,657*	0,302	0,043	0,012*	0,243	0,183	0,000	0,006	0,379	0,204	0,029	0,011	0,085	0,213	0,000	0,003
AGE	-0,075	0,067	0,000	-0,001	-0,077	0,053	-0,007	-0,002	-0,181*	0,059	-0,065	-0,005*	-0,278*	0,063	-0,113	-0,011*
AGE2	0,000	0,001	0,000	0,000	-4E-05	0,001	0,000	0,000	0,001	0,001	0,014	0,000	0,003*	0,001	0,074	0,1E-03*
IMLEDUC	0,321	0,203	0,018	0,006	0,201	0,158	0,000	0,005	0,100	0,183	0,000	0,003	0,413	0,216	0,035	0,016
HIGHLEDUC	0,099	0,272	0,000	0,002	1,029*	0,205	0,097	0,026*	1,102*	0,233	0,108	0,031*	0,970*	0,283	0,084	0,038*
HOUSEH1	0,340	0,228	0,012	0,006	0,334	0,185	0,023	0,008	0,789*	0,235	0,073	0,022*	0,409	0,270	0,015	0,016
HOUSEH2	0,135	0,192	0,000	0,003	0,025	0,156	0,000	0,001	0,409*	0,184	0,041	0,011*	0,355	0,210	0,025	0,014
HISTMIG	1,510*	0,176	0,219	0,028*	1,431*	0,131	0,219	0,036*	1,514*	0,160	0,224	0,042*	1,505*	0,183	0,217	0,059*
HOMEOWN	-0,407*	0,174	-0,049	-0,008*	-0,576*	0,132	-0,083	-0,014*	-0,377*	0,160	-0,045	-0,011*	-0,315	0,175	-0,030	-0,012
LOCUN	0,074	0,096	0,000	0,001	0,037	0,029	0,000	0,001	0,028	0,030	0,000	0,001	0,019	0,023	0,000	0,001
LOCSIZE	-0,001*	0,001	-0,065	-3E-05*	-0,001	0,001	0,000	0,000	0,000	0,005	0,000	0,000	-0,008*	0,004	-0,046	-0,3E-03*
URBAN	0,094	0,101	0,000	0,002	0,086	0,084	0,000	0,002	0,057	0,084	0,000	0,002	0,201*	0,098	0,040	0,008*
AGRIG	0,217	0,264	0,000	0,004	0,200	0,159	0,000	0,005	0,178	0,125	0,004	0,005	0,146	0,155	0,000	0,006
Sample size		5 209				6538				4174				2838		
-2 Log-likelihood		1 298,5				2078,6				1450,4				1182,1		
Correctly classified, %		96,77				95,35				94,51				93,48		

Notes:

B = Estimated coefficient

SE = Standard error

R = R statistics which shows the contribution (sign and class) the variable has in model

ME = Marginal effects of variable (the marginal effects are evaluated at the sample means of observations)

*** = Statistically significant at the 5% level**

In their broad tendency, regional results are quite similar to each other. However, there exist some interesting differences in regional models. Turning first to the results related to the unemployment variables, we are able to see that region 1 (province of Uusimaa) differs from the other regions with respect to the outcome of the personal unemployment variable. Region 1 reaches a statistically significant and considerably large positive coefficient for personal unemployment (**PERSUNKK**) while other regions fail to reach the 5% significance level. The result suggests that personal unemployment matters specifically in Uusimaa, while in other regions its importance as an out-migration determinant is harder to observe. Partly, this might relate to the phenomenon of remigration. Thus, migration seems to be a micro-efficient process in a low unemployment region such as Uusimaa, while in higher unemployment regions the micro-efficiency cannot be detected. The Myrdal effect can be observed here.

Surprisingly, regional unemployment (**LOCUN**) does not seem to have an effect on migratory behaviour in any of the four regions. The variable was, however, important in the models relating to the country as a whole. One explanation for this confusing result might relate to a smaller variation of regional (local) unemployment at the regional level than at the national level. The smaller variation is due to the fact that local unemployment levels do not vary as much within the regions as between the regions.

As in national models the previous migration experience has the most vigorous effect on migratory behaviour in every region. The coefficient of the variable is statistically significant and quite stable from one region to another. Other strong variables in almost every region are high level education (**HIGHLEDUC**) and homeowner status (**HOMEOWN**). However, the variable of the high level education is not a statistically significant influence in Region 1 and the variable of the home owning is not observed to be significant in Region 4. The age variable (**AGE**) is also statistically significant in three regions. The coefficient of age has its greatest value in region 4, in Northern Finland.

Generally, the results suggest there to be regional differences in migratory behaviour. The differences are not very remarkable but still interesting from the angle of regional development.

4.3 The interactive dummy modelling

In this section we continue the analysis of regional migratory behaviour. The results of chapter 4.2 are exploited to construct interactive dummy variables for regional characteristics. Table 5 presents the logit regressions of moving in an interactive dummy model. Our interest focuses now on new interactive dummies that represent the unemployment-related migratory

Table 5. Logit regressions for probability to move (interactive dummy model)

VARIABLES	B	SE	R
CONSTANT	-0,377	0,580	-
AGE	-0,141*	0,030	-0,054
AGE2	0,009*	0,000	0,019
IMLEDUC	0,270*	0,092	0,030
HIGHLEDUC	0,832*	0,119	0,081
HOUSEH1	0,432*	0,110	0,043
HOUSEH2	0,181	0,091	0,015
HISTMIG	1,448*	0,078	0,222
HOMEOWN	-0,465*	0,078	-0,069
LOCSIZE	-0,002*	0,000	-0,039
URBAN	0,075*	0,040	0,015
AGRIC	0,157*	0,072	0,020
UUSIMAA * PERSUNKK	0,668*	0,301	0,020
UUSIMAA * LOCUN	-0,206*	0,049	-0,047
SOUTH*PERSUNKK	0,167	0,178	0,000
SOUTH*LOCUN	-0,022	0,014	-0,009
CENTRAL*PERSUNKK	0,363	0,194	0,015
CENTRAL*LOCUN	-0,010	0,014	0,000

Sample size	**18 849**
Number of movers	**886**
-2 Log-likelihood	**6 094,3**
Correctly classified, %	**95,31**

Notes:

B = Estimated coefficient

SE = Standard error

R = R statistic which shows the contribution (sign and class) the variable has in the model

*** = Statistically significant at the 5% level**

patterns. Regions 1, 2 and 3 are compared against region 4, northern Finland (the reference region). According to the results, personal unemployment seems to increase the likelihood of moving in Uusimaa more than in other parts of Finland. In fact, Uusimaa is the only area reaching the significance level. The result is analogous to one presented previously in the separate modelling.

Uusimaa also reaches a statistically significant and, surprisingly, quite large negative coefficient for regional unemployment. The interpretation of the coefficient is that regional unemployment has lesser effect on migration in Uusimaa than in northern Finland. The result does not follow the outcomes of separate models in chapter 4.2. One explanation of the result might relate to larger variation of regional unemployment rates between regions than within regions (separate modelling). The negative sign of Uusimaa's coefficient could be due to awareness of the risk of losing most of the work-related contacts as well as job opportunities after the move. This discouraging effect of local unemployment on migration is in fact quite obvious in Uusimaa. It is generally assumed that densely populated Uusimaa possess more job opportunities and so a greater likelihood for finding a job than in rest of Finland. Accordingly, potential movers of high unemployment areas in Uusimaa are more likely to move inside the province than to regions outside of Uusimaa.

5. Summary and conclusions

This paper explored migratory behaviour and regional differences in this behaviour in Finland. The analysis focused on the effect of unemployment on the likelihood of moving (Pissarides and Wadsworth 1989; Tervo 1997). The main idea was that the effects of unemployment diffuse to migration through three channels – personal, regional and national. This study concentrated on analysing the first two of them. The empirical analysis dealt with long-distance migration in Finland exploiting the Finnish longitudinal census data. The observed time period was five years, from 1985 to 1990 and the sample size was 18 849.

In general, the results of migratory behaviour in Finland show that the four most important determinants are:

i. Previous migration experience
ii. High level of education
iii. Size of municipality (origin)
iv. Home ownership

These results are not surprising and are in line with most of the previous studies. According to the outcomes, previous migration experience augments greatly the likelihood of migration. This might be due to disappointment with the previous destination, general desire for change or lower psychological cost of movement confronted by potential migrant. A high level of education also increases the likelihood of migration. Migration is selective by nature, and individuals with higher educational level were found to be more mobile. The size of origin municipality has a relatively strong impact on the migration decision. The likelihood of moving decreases with the size of municipality. This is due to better possibilities of career management and job possibilities in central areas. The effect of home ownership is similar to the preceding factor – home ownership prevents moving. Home owning status increases costs of movement in terms of higher transaction costs and low liquidity of real estate.

Related to the effect of unemployment, two different channels of unemployment influence on migration were mapped out here – the personal and regional channels. Within a multivariate -setting in which other personal and regional characteristics were held constant, both personal and regional unemployment seems to have a remarkable effect on migratory behaviour. The surprising outcome was, however, that regional unemployment seems to be a dominating factor. This is not quite in line with most previous studies, which have typically found personal unemployment to be more important than regional unemployment. One possible explanation of these results is the unique characteristics of Finland as well as the Nordic countries in general. Most of the area is sparsely populated and social security in these countries is at a high level.

Inspired by these results, regional variation in migratory behaviour was also examined. Two different methods of analysis were used to reveal regional characteristics of migratory behaviour. First, migratory behaviour in the regions was modelled separately and, second, the obtained results were exploited to build an interactive dummy model. The results show that

certain interesting differences exist between different regions. Surprisingly, the personal unemployment factor seems to have the strongest effect on migration in the province of Uusimaa while elsewhere the effect does not reach statistical significance. Thus, the province of Uusimaa seems to efficiently utilise the labour market balancing role of migration. In the interactive dummy model, Uusimaa also reaches a statistically significant and, surprisingly, negative coefficient for regional unemployment. The interpretation of the coefficient is that regional unemployment has a lesser effect on migration in Uusimaa than in northern Finland. Thus, from the national viewpoint, the total outcome is not good. The future prospects of high unemployment areas are further worsening while successful areas benefit from the centralising path of development. The migration process has the nature of cumulative causation.

There are several areas of research that would still improve our understanding of issues relating to the labour market equilibrating role of migration. First, to analyse the migration process from the point of view of destination areas would be interesting. Second, how does migration affect unemployment at the personal and regional level? This question deals with the benefits of the migration process in general. Third, what are the real causal relationship between unemployment and migration – the chicken and egg controversy of whether people follow the job or jobs follow people. These are part of the questions to be answered in future research on migration.

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Footnotes

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[2] New data from the 1990's will partly be annual, and hopefully resolves the problem of the long time interval.
[3] A person primarily included in the economically active population in the year 1985 was supposed to be employed and/or unemployed for at least six months (≥ 20 hours / week) between 18 November 1984 and 17 November 1985. The unemployed part of the economically active population consists of persons who have either been unemployed over six months, or been unemployed and employed at least six months, where the persons are unemployed for over half of this period.